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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,248	04/20/2004	Shingo Fujimori	Q81215	2535

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EXAMINER

RATCLIFFE, LUKE D

ART UNIT PAPER NUMBER

3662

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/827,248	<b>Applicant(s)</b> FUJIMORI ET AL.	
	<b>Examiner</b> Luke D. Ratcliffe	<b>Art Unit</b> 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 6/20/06.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 10, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iritani (WO02/079799) using US2004/0119966 for translation purposes in view of Farmer (5748295).**

Referring to claims 1 and 10, Iritani shows sending a first wave (paragraph 9 and 10), changing the frequency (paragraph 9 and 10), detecting the amplitude (paragraph 9 and 10), and executing a first calculation (paragraph 9 and 10). However Iritani does not show doing a simple calculation that would turn distance into velocity.

Farmer shows the conversion of the distance value into a velocity value (column 3 line 35-column 4 line 34). It would have been obvious to use the calculation shown by Farmer to modify Iritani because the conversion of distance to velocity is a common

conversion especially if the target is moving relative to the distance measuring device as taught by Farmer.

Referring to claim 20, Iritani shows a plurality of distance measuring devices (paragraph 15), a synchronization control device (paragraph 15), and a coordinate calculating device (paragraph 15).

Referring to claim 21, With the modification of Farmer on Iritani it would have been obvious to have the steps because Iritani shows these steps without the relative speed determination.

**Claims 2-9 and 11-19 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Iritani (WO02/079799) using US2004/0119966 for translation purposes in view of Farmer (5748295) as applied to claim 1 above, and further in view of Ooga (20020024652).**

Referring to **claims 2 and 11**, Iritani shows sending a first wave (paragraph 9 and 10), changing the frequency (paragraph 9 and 10), detecting the amplitude (paragraph 9 and 10), and executing a first calculation (paragraph 9 and 10). However Iritani does not send a second electromagnetic wave.

Ooga shows using two beams (figure 6) that transmit to determine the distance to solids in the atmosphere (paragraph 5). It would have been obvious to use two modify Iritani to use two beams as taught by Ooga because this allows a larger scan of the area to be developed if the beams are not overlapped and if they are overlapped it allows more received information to process as taught by Ooga (paragraph 13).

Referring to **claims 3 and 12**, Iritani shows a step of synchronizing execution connected to the first and second arithmetic sections for synchronizing execution of the first and second calculations (paragraph 9 and 10).

Referring to **claims 4 and 13**, Iritani shows a step of calculating space coordinates of the measurement object at the first and second positions and Farmer shows the determining of relative speeds as shown above (paragraph 15).

Referring to **claims 5 and 14**, it would be obvious to change the frequency of the first traveling wave stepwise because this is a common way to change the frequency of a signal and adds no new or unexpected results.

Referring to **claims 6 and 15**, it would be inherent that this step would be done after a predetermined lapse of time because the speed of light is not infinite.

Referring to **claims 7 and 16**, it would be obvious to set the lapse longer than the time it would take the first traveling wave to reach the first position because everything that would be received before the signal is noise and adds no information that was not already present. This wait is obvious and well known and adds no new or unexpected results.

Referring to **claims 8, 9, 17,18**, it would be obvious to change the frequency at a random or a predetermined pattern because these are well know methods of changing a frequency so as to modulate the frequency and add no new or unexpected results.

Referring to **claim 19**, Iritani shows a first electromagnetic wave generator that comprises a light emitting section for emitting light, as the first electromagnetic wave (paragraph 9-16).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke D. Ratcliffe whose telephone number is 571-272-3110. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LDR

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